

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

List of Claims:

1. (Currently Amended) An array substrate for a transfective liquid crystal display device, comprising:
 - a gate line on a substrate;
 - a common line parallel to and spaced apart from the gate line;
 - a data line crossing the gate line to define a pixel region having a transmissive portion and a reflective portion wherein the reflective portion includes an area between the common line and the gate line;
 - a thin film transistor connected to the gate and data lines, the thin film transistor including a gate electrode, an active layer, and source and drain electrodes;
 - a capacitor electrode extending from the drain electrode and overlapping the common line;
 - a reflective layer covering the common line and the thin film transistor and corresponding to the reflective portion;
 - an insulating layer on the reflective layer, the insulating layer having an open portion corresponding to the drain electrode; and
 - a transparent electrode formed on a portion of the insulating layer and connected to the drain electrode and disposed in the pixel region.
2. (Original) The array substrate according to claim 1, wherein the reflective layer is adjacent to the gate line.

3. (Currently Amended) The array substrate according to claim 3 1, wherein the reflective layer has a rectangular shape.

4. (Original) The array substrate according to claim 1, wherein the transparent electrode contacts the capacitor electrode.

5. (Original) The array substrate according to claim 1, wherein the reflective layer is uneven.

6. (Original) The array substrate according to claim 1, wherein the reflective layer includes one of silver (Ag), aluminum (Al), and aluminum-neodymium (AlNd).

7. (Original) The array substrate according to claim 1, wherein the transparent electrode includes one of indium-tin-oxide (ITO) and indium-zinc-oxide (IZO).

8. (Currently Amended) The array substrate according to claim 1, ~~further comprising an~~ wherein the insulating layer ~~having~~ has an open portion corresponding to the transmissive portion.

9. (Currently Amended) A fabricating method of an array substrate for a transfective liquid crystal display device, comprising:

forming a gate line, a gate electrode and a common line on a substrate having a pixel region including a transmissive portion and a reflective portion, the gate electrode being connected to the gate line, the common line being parallel to the gate line;

forming a first insulating layer on the gate line, the gate electrode and the common line;

forming an active layer on the first insulating layer over the gate electrode;

forming source and drain electrodes on the ~~semiconductor~~ active layer, a data line and a capacitor electrode on the first insulating layer, the source and drain electrodes being spaced apart from each other, the capacitor electrode extending from the drain electrode and overlapping the common line, the data line crossing the gate line and being connected to the source electrode, the gate electrode, the active layer and source and drain electrodes constituting a thin film transistor;

forming a second insulating layer on the source and drain electrodes, the data line and the capacitor electrode;

forming a reflective layer on the second insulating layer, the reflecting layer covering the common line and the thin film transistor;

forming a third insulating layer on the reflective layer; and

forming a transparent electrode on the third insulating layer in the pixel region, the transparent electrode being connected to the drain electrode.

10. (Original) The method according to claim 9, wherein the reflective layer is uneven.

11. (Original) The method according to claim 10, further comprising:
forming a plurality of bumps on the second insulating layer in the pixel region, the plurality of bumps including an organic material; and
forming a fourth insulating layer on the plurality of bumps, the fourth insulating layer including an organic insulating material.

12. (Original) The method according to claim 11, further comprising forming an open portion through the second to fourth insulating layer, the open portion corresponding to the transmissive portion.

13. (Original) The method according to claim 11, wherein the reflective layer is rectangular.

14. (Currently Amended) A transfective liquid crystal display device, comprising:
first and second substrates spaced apart from each other;
a gate line on an inner surface of the first substrate;
a common line parallel to and spaced apart from the gate line;
a data line crossing the gate line to define a pixel region having a transmissive portion and a reflective portion wherein the reflective portion includes an area between the common line and the gate line;
a thin film transistor connected to the gate and data lines, the thin film transistor including a gate electrode, an active layer, and source and drain electrodes;

a capacitor electrode extending from the drain electrode and overlapping the common line;

a reflective layer covering the common line and the thin film transistor and corresponding to the reflective portion;

an insulating layer on the reflective layer;

a transparent electrode formed on the insulating layer and connected to the drain electrode and disposed in the pixel region;

a black matrix on an inner surface of the second substrate;

a buffer layer on the black matrix, the buffer layer being transparent and corresponding to the reflective portion;

a color filter layer on the buffer layer in the pixel region, the color filter layer having a first thickness in the transmissive portion and a second thickness in the reflective portion, the first thickness being substantially twice of the second thickness;

a common electrode on the color filter layer; and

a liquid crystal layer between the transparent electrode and the common electrode.

15. (Original) The device according to claim 14, wherein the buffer layer extends to a reflective portion of an adjacent pixel region.

16. (Original) The device according to claim 14, wherein the liquid crystal layer has a third thickness in the transmissive portion and a fourth thickness in the reflective portion, wherein the third thickness is substantially twice of the fourth thickness.

17. (Original) The device according to claim 14, wherein the reflective layer is adjacent to the gate line.

18. (Original) The device according to claim 17, wherein the reflective layer has a rectangular shape.

19. (Original) The device according to claim 14, wherein the transparent electrode contacts the capacitor electrode.

20. (Original) The device according to claim 14, wherein the reflective layer is uneven.

21. (Original) The device according to claim 14, wherein the reflective layer includes one of silver (Ag), aluminum (Al), and aluminum-neodymium (AlNd).

22. (Original) The device according to claim 14, wherein the transparent electrode includes one of indium-tin-oxide (ITO) and indium-zinc-oxide (IZO).

23. (Original) The device according to claim 14, further comprising an insulating layer having an open portion corresponding to the transmissive portion.

24. (Currently Amended) A fabricating method of a transfective liquid crystal display device, comprising:

forming a gate line, a gate electrode and a common line on a first substrate having a pixel region including a transmissive portion and a reflective portion, the gate electrode being connected to the gate line, the common line being parallel to the gate line;

forming a first insulating layer on the gate line, the gate electrode and the common line;

forming an active layer on the first insulating layer over the gate electrode;

forming source and drain electrodes on the ~~semiconductor~~ active layer, a data line and a capacitor electrode on the first insulating layer, the source and drain electrodes being spaced apart from each other, the capacitor electrode extending from the drain electrode and overlapping the common line, the data line crossing the gate line and being connected to the source electrode, the gate electrode, the active layer and source and drain electrodes constituting a thin film transistor;

forming a second insulating layer on the source and drain electrodes, the data line and the capacitor electrode;

forming a reflective layer on the second insulating layer, the reflecting layer covering the common line and the thin film transistor;

forming a third insulating layer on the reflective layer;

forming a transparent electrode on the third insulating layer in the pixel region, the transparent electrode being connected to the drain electrode;

forming a black matrix on a second substrate having the pixel region including the transmissive portion and the reflective portion;

forming a buffer layer on the black matrix, the buffer layer being transparent and corresponding to the reflective portion;

forming a color filter layer on the buffer layer in the pixel region, the color filter layer having a first thickness in the transmissive portion and a second thickness in the reflective portion, the first thickness being substantially twice of the second thickness;

forming a common electrode on the color filter layer;

attaching the first and second substrates such that the transparent electrode faces into the common electrode; and

forming a liquid crystal layer between the transparent electrode and the common electrode.

25. (Original) The method according to claim 24, wherein the reflective layer is uneven.

26. (Original) The method according to claim 25, further comprising:
forming a plurality of bumps on the second insulating layer in the pixel region, the plurality of bumps including an organic material; and

forming a fourth insulating layer on the plurality of bumps, the fourth insulating layer including an organic insulating material.

27. (Original) The method according to claim 26, further comprising forming an open portion through the second to fourth insulating layer, the open portion corresponding to the transmissive portion.

28. (Original) The method according to claim 24, wherein the reflective layer is rectangular.